

ABSTRACT OF THE DISCLOSURE

5 Procedure to increase the manipulation security for a bi-directional contactless data transmission.

With the known procedures for bi-directional contactless communication, the communication distance can be manipulated by extension, using radio repeaters, such that unauthorized persons can authenticate themselves.

10 With the new procedure, the manipulation is prevented by establishing a fixed relationship of a selected physical quantity of an electromagnetic signal. To this end, for example, the frequency of the signal received from the transponder is multiplied with a number and then re-transmitted to the base unit. In the base unit, the frequency of this re-transmitted signal is divided by this same number. Next, a frequency comparison will be effected between the originally emitted signal and the re-transmitted signal. If the value determined by this comparison is below a preset  
15 value, there is a fixed frequency relationship between both signals. In this case, an extension of the communication distance by means of repeaters can be excluded, and the further authentication process effected.